Investigating a disciplinary approach to literacy learning in a secondary school

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Abstract
This paper presents findings from a Design-Based Research (DBR) project undertaken in a large regional high school in Queensland. The study focused on an intervention involving explicit teaching using systemic functional grammar in assessed writing across two Year 8 subjects: English and History. The study's findings demonstrate that, despite efforts at the whole school and classroom level to support a disciplinary literacy approach to subject learning, there are considerable constraints that need to be considered and overcome in order for students to develop appropriate writing capabilities for particular discipline areas.

Introduction

A significant transition for students in their schooling lives is the move from primary to high school. Not only does that represent a physical shift for many students in moving schools, but it is also mentally and emotionally demanding as students encounter new teachers, new students and new operational systems such as timetables. High school also represents a continuation of the apprenticeships students have begun in primary school in developing their knowledge and understandings of subject-specific literacies. The privileging of Literacy in the Australian Curriculum as a General Capability that 'should be applied in all learning areas' (Australian Curriculum, Assessment and Reporting Authority (ACARA), 2014a, p. 5) reflects that 'students' learning is comprehensively and unrelievedly dependent on the development of their literacy capabilities' (Freebody, Barton, & Chen, 2013, p. 304).

This paper highlights some of the findings from a master's research project focusing on the teaching of subject-specific literacies in the subjects of English and History in a Year 8 class during one term. In her role as literacy coach in a large, regional high school, Ms H undertook collaborative research with a Year 8 teacher who taught English and History. In this Design-Based Research project (Anderson & Shattuck, 2012), the research team applied a functional language approach to the teaching of specific curriculum literacies in the English and History subjects to determine whether this approach could enhance students' disciplinary knowledge, particularly in their completion of written assessment tasks.

Whilst the majority of students say the move between subjects in high school is easy to manage, an exploration of the learning and assessment demands on students highlights that there are many challenges that students must contend with, in order to be successful in their learning. For students who are beginning their high school studies, the reality of school assessment and reporting deadlines means that they are being assessed simultaneously in a range of learning areas. It seems that students can struggle to effectively demonstrate their learning when unit plans are crowded with too much content detail, combined with poorly-designed tasks and an absence of the explicit teaching of valued subject literacies such as reading and writing. This article begins by discussing literacy practices in high schools and shifts from an emphasis on content to a disciplinary literacy approach. It then outlines the research project, including a description of the project design and the school context. The planned assessment for the subjects of History and English will then be discussed, along with major findings from the project.

The study reported in this article considers the impact of external pressures, such as the implementation of the Australian curriculum, as well as internal timetabling demands, on both students and teachers. As a result of these external and internal factors, the study highlights how students are completing assessment but not deepening knowledge of the language or literacies of specific disciplines beyond content. Without curriculum reviews and internal school efforts to focus on knowledge beyond content, particularly knowledge of writing, students are in danger of graduating from school still as apprentices in the key disciplines they are meant to have learned.

From content area to disciplinary literacy

Secondary schools are characterised by the carving up of a school day into 'neatly bounded subject matter bites' (Moje, 2007, p. 3). Secondary school timetables accentuate differences between subjects as students move from class to class, trying to make meaning of and construct knowledge in a variety of subjects (Freebody, 2007; Moje, 2007). Even though moving between subjects is a well-established practice in secondary schools across Australia, there is lack of a research focusing on how students respond to the 'potentially fragmenting' practices of school timetables (Freebody, 2007, p. 64). When moving between subjects, students not only encounter a major challenge in how to simultaneously coordinate between a variety of modes such as print, aural and visual (Wyatt-Cumming & Smith, 1999), they also need to become adept at switching between ways of organising and representing knowledge as they change subjects and teachers. It is almost as if students need a 'meta course' (Billman & Pearson, 2013) to help them develop knowledge and understanding of which linguistic and semiotic resources are appropriate for use in specific disciplines at particular stages in the learning cycle as they move from class to class.

Recognition that students require a repertoire of strategies that they can employ if they are to succeed in a range of subjects in high school is evident in the long history of research in content area instruction (Moje, 2007), stemming from the work of Harold Herber (1970). Content area programs such as Effective Reading in the Content Areas (ERICA), developed by Bert Morris and Nea Stewart Dore (1984), focused on students developing repertoires of cognitive strategies that they could apply to texts as they progressed through school. Under a content area approach to literacy, it is believed that students' application of the strategies to extract information from texts will enhance their learning and retention of content (Fang, 2012).

In a review of literacy teaching conducted in 2007, Moje noted that while some studies have demonstrated positive effects of application of specific generic content strategies on student learning, the transfer of strategies across subjects has not been addressed. In addition to this, it seems that Herber's (1970) premise that content determines process has been lost in translation to the classroom (Gillis, 2014), with content area programs lacking consideration of discipline-specific ways of organising and representing information in their every strategy for every subject approach. Thus the focus in content area programs has been on the application of strategies, without consideration of their appropriateness to the content being studied in each discipline (Gillis, 2014).

In recent years there has been a shift from content area literacy to disciplinary literacy in recognition of the practices, language and assessment demands of specific disciplines that become increasingly complex as students' progress into their senior years of high school (Freebody, 2007). Disciplinary literacy encompasses the 'discipline-specific practices that promote simultaneous engagement with disciplinary language and disciplinary content'

(Fang, 2012, p. 19). The shift to disciplinary literacy has occurred in recognition of the largely ineffectual expectation that content-focused teachers will automatically realise the advantages of literacy strategies and assimilate them in their teaching (Bean & O'Brien, 2012).

Disciplinary literacy has been defined by Fang (2012) as 'the ability to engage in social, semiotic and cognitive practices considered consistent with those of content experts' (p. 19). This approach is based on the belief that 'deep' knowledge of a discipline is best developed by engaging in the literate practices utilised by experts in the discipline (Johnson & Watson, 2011; Shanahan & Shanahan, 2012). Thus, disciplinary literacy sees the major differences between subjects as the practices that produce knowledge, whereas content area approaches 'treat content differences as the major distinction among the disciplines' (Shanahan & Shanahan, 2012, p. 8). Amongst educators there is a growing realisation that a focus on narrow definitions of literacy is detrimental to student learning (Wendt, 2013), and classroom pedagogy must reflect broader definitions of literacy that take account of the increasing specialisation and complexity of high school subject areas.

With the implementation of the Australian Curriculum in the subjects of English, Mathematics, Science and History from 2012, there is an urgent need for the establishment of a research tradition in how students manage and put to use the curriculum-specific resources they require to succeed in their learning in secondary school (Freebody, 2007). Even though under Australian Curriculum guidelines 'all teachers are responsible for teaching the subject-specific literacy of their learning area' (ACARA, 2014b, p. 1), the traditional hierarchical organisation of secondary schools often hinders the development and enactment of whole-school cross-curriculum initiatives (May & Wright, 2008).

Research methodology

This project represented a collaborative approach between Ms H – as researcher and literacy coach – and two teachers at a large regional high school in applying knowledge of language gained through literacy professional development. The aim of the collaboration was to provide insights, not only in terms of the learners and their knowledge of curriculum literacies, but the pedagogy that might support the development of those literacies, particularly in terms of writing – the mode in which most formal classroom assessment is conducted.

Design-Based Research was selected for this project as it is focused on 'design and testing of a significant intervention' (Anderson and Shattuck, 2012, p. 16), namely, using a functional language approach (Halliday & Hasan, 1985) to develop students' knowledge of language in the curriculum disciplines of English and History. Design-Based Research is a relatively new methodology which 'seeks to increase the impact, transfer and translation of education research into improved practice' (Anderson and Shattuck, 2012, p. 16). This project was guided by theories concerning student learning in curriculum specific domains, particularly with respect to writing development and how the development of activities based on a functional language approach – a Systemic Functional Linguistics – could support learning in the classroom (Fang & Wang, 2011).

The project was situated in a real education setting, providing insight into how research can inform classroom practice (Anderson & Shattuck, 2012; Freebody, 2007; Morgan, 2013). However, the fact that the research was conducted in an evolving and at times unpredictable school context meant that negotiation and compromise on some of the original design

elements were required. Rather than detracting from the study, however, these 'real-world' problems meant that valuable insights were gained that were not anticipated at the outset. As Design-Based Research is 'intentionally iterative' (Freebody, 2011, p. 12), enabling a project to be modified or redesigned according to ongoing data collection, the findings from this study provide insight into the challenges schools currently face as they apprentice students into key disciplines of learning that are essential for lifelong and career success, as literate, global citizens.

Site description and participants

The school in the study prides itself on its whole-school approach to literacy across and within disciplines, but as the research project revealed, there is a significant mismatch between what is espoused and what is enacted. Commitment to staff professional development in literacy is evident at the whole-school level, with the school administration continuing to provide opportunities for staff to access Education Queensland's *Literacy – the key to learning* (Queensland Government, 2009) professional development program. While the program no longer operates at the systemic level, the school allocates significant funds to this in their professional development budget. The *Literacy – the key to learning* program has been adopted because of its emphasis on language and teachers assuming responsibility for teaching the knowledge, skills and practices students require to succeed in specific subject areas.

The belief in the building of teachers' capacities to identify and teach the literacies of their subject areas is also replicated in the Australian Curriculum 'Literacy as a general capability' (ACARA, 2014a) statements. The school supports the development of teachers' skills in teaching the literacies of their subject areas through professional development and the role of the literacy coach. The study has revealed significant constraints, however – some of which are school-imposed – that prevent teachers from effectively enacting their literacy learning in the classroom.

The research was conducted with the assistance of a Year 8 teaching pair, as part of a Year 8 Transition Program at a large regional Queensland high school with an enrolment of approximately 1200 students. Two teachers were approached by Ms H in 2012 to collaborate to produce lessons across four subjects: English, Mathematics, History and Science, to enhance students' writing capabilities. As coach, Ms H planned to support the teachers in their learning, developing learning activities with them, team-teaching where appropriate, and guiding them in their learning as much as the students. This paper reports on one English/ History teacher's experience, in terms of increasing her own knowledge and skills as well as the benefit her students might gain from their involvement in the planned intervention.

The female English/Social Science teacher participating in the research was in her third year of teaching. Of the 20 students in the class who were given consent forms, 11 students responded to a request to participate in the research project. Of those 11 students, eight consented to full participation in the project, including involvement in group and individual interviews, audio-visual recording of the interviews and observations, use of work samples, and use of recordings for professional development activities if appropriate. In this paper, we draw on the comments of four students – Bridget, Isaac, Isabelle and Connor (pseudonyms) – to support research findings. This group of students varied in terms of confidence and competence with respect to the literacies of English and History.

The timetable at the school is structured so that there are 4 x 70 minute lessons per day. Year 8 students had three lessons per week in English and Mathematics and two lessons each week in History. The term was ten weeks long, with students generally being assessed by week 7 or 8 in each of their subjects, depending on whether they were being assessed via examinations or assignment work. These assessment dates were generally set to meet school reporting deadlines.

The intervention was planned in two subjects – History and English – using a functional language approach with the emphasis on writing, as it is generally writing that is assessed 'via a solo literate performance' from individual students in high school (Freebody, 2013, p. 5). In both discipline domains, however, multimodality was part of the assessed task the Year 8 students had to complete.

The History domain

The topic for History was Shogunate Japan. Students were required to produce a multimodal 'emakimono', a Japanese picture scroll which 'explains the significance of an individual incorporating influences on his/her life and major impacts he/she has had on wider society'. The emakimono was to be produced as a sequence of PowerPoint® slides printed and assembled as a scroll. These were to highlight the influence, power and impact of a historical figure in Shogunate Japan. While the unit outline for the *Shogunate of Japan* unit was comprehensive, detailing what was to occur in each lesson, there was no specific reference to the Australian Curriculum General Capability of Literacy, or writing, or creating multimodal texts.

The unit was adapted from a Queensland C2C (Curriculum to Classroom) unit, part of a series of units in the subjects of English, Maths, History and Science created by Education Queensland teachers in response to the Australian Curriculum for these subjects. These units are available through Education Queensland's computer management system called 'Oneschool', to which all state schools have access. While the units are not mandated for use and may be 'adopted or adapted', there is strong encouragement to utilise these externally prepared resources, particularly in primary schools. The unit materials, adapted from the C2C unit on the *Shogunate of Japan*, provided a range of activities exploring both primary and secondary documents concerning the cultural, economic and political life of feudal Japan. Even though two weeks – four lessons – had been allocated to the study of the content of the unit, in reality the teacher said that she had only two-and-a-half lessons in which to teach the content, due to time constraints resulting from interruptions to curriculum programs as well as reporting deadlines.

The planned research intervention for History was the use of a written exemplar which Ms H wrote and taught based on an Australian Indigenous historical figure, Jandamarra, as she had been planning lessons on that text for English. The exemplar was constructed as paragraphs on an A4 sheet of paper, rather than a scroll. Even though there was a C2C-generated modelled response for this task, it lacked consistency in terms of paragraph construction, particularly in linking topic sentences to research questions. Table 1 shows the written text included in the first three slides of the C2C-generated modelled response, which also included visuals on each slide as well, a requirement of the task. While the opening slide includes the research question 'What was the significance of Japanese Emperor Meiji?', the second slide provides details of his birth, lacking an introductory statement that orientates the reader to the significance of who Emperor Meiji was or his achievements. The task required students to 'incorporate influences' on the Emperor's life, as is evident in the third slide

which stated that 'The Shinto mythology of the Japanese imperial family influenced Mutsuhito's perceptions of himself and his role.' However, the supporting evidence briefly explains what Shintoism is, rather than providing information about how the Shinto mythology was evident in the Emperor's actions.

Table 1. C2C modelled response (first three slides)

Slide: Title	**Slide: Topic sentence**
1. Title slide: Emperor Meiji - What was the significance of Japanese Emperor Meiji (1852–1912)?	Visual
2. Mutsuhito is born into the imperial family	Mutsuhito, the Emperor of Japan, was born 3 November 1852 to a concubine of Emperor Komei
3. Mutsuhito grows up influenced by Shinto beliefs and values	The Shinto mythology of the Japanese imperial family influenced Mutsuhito's perceptions of himself and his role. Legend says that all Emperors are descendants of the legendary first emperor, Jimmu, said to be descended from Amaterasu, the sun goddess. This divine ancestry made the emperor Shinto high priest.

The exemplar was presumably written to provide students with a clearer understanding of how language could be used to clearly identify and explain the significance of an individual, the influences on his/her life and his/her major achievements. One of the main purposes of developing an exemplar is to apprentice students into how to construct paragraphs to answer research questions and include supporting evidence. However, the research team concluded that the C2C-generated exemplar lacked clarity and consistency in paragraph structure.

The first paragraph of the exemplar written by Ms H, which focused on Jandamarra, is shown in Table 2. It includes an introductory statement that clearly identifies who Jandamarra was and why he was important.

Table 2. The first paragraph of the History exemplar written by Ms H

Point: *Topic sentence*	Jandamarra, who some claim should be as famous as Ned Kelly, was an Australian Aboriginal Man renowned for leading his people in a rebellion against pastoralists in the Kimberley region in Western Australia during the latter part of the 19th century. *Who:* Jandamarra, who some claim should be as famous as Ned Kelly *What*: was an Australian Aboriginal man famous for leading his people in a rebellion against pastoralists *Where:* in the Kimberley region in Western Australia *When*: during the latter part of the 19th century

Elaboration: *further explanation of who he was and what he did*	Jandamarra, known as 'Pigeon' to his white bosses, fought a three-year war starting in 1894 against the Western Australian Police and pastoralists, in defence of his the land and culture of the Bunuba tribe.
Evidence: *why this rebellion was significant*	He achieved notoriety through his skilful evasion of police, which led to beliefs that he had magical powers. Terrified pastoralists abandoned their settlements in fear of Jandamarra, and regarded him as an outlaw. There are conflicting reports of Jandamarra's age and date of birth; he was born around 1873, and died in 1897, thus would have been in his early to mid-twenties when he died.
Linking back *(to topic sentence; sum up paragraph)*	Jandamarra has been called a 'tragic hero' because he was caught in a conflict between Aboriginal people and white settlers.

While most students enjoyed creating a scroll, the emphasis on the process of constructing a scroll highlights how the key genre of the discipline may be lost in task design. For educationalists, 'understanding the patterns of language characteristics of different school subjects and genres can enable teachers to better scaffold the development of language and knowledge' (Fang, Schleppegrell, & Cox, 2006, p. 249). Genres, or texts that are constructed to achieve the same or similar purposes, 'tend to be structured in the same ways, and use comparable language features' (Humphrey, Droga, & Feez, 2012, p. 7). This leads to predictability as genres 'have evolved in particular ways to achieve their purpose' (Derewianka, 2012, p. 131). In addition, a certain degree of predictability is required for the discourse communities, or shared language conventions and practices evident within school disciplines, to operate.

In History, the students first and foremost saw the task as creating a scroll. Scrolls are not a key genre in History; in this assignment, the scroll was a text type used to represent information concerning key historical figures. While students are being apprenticed into a key process in History – historical inquiry – and asked to represent their information in a key historical genre – a historical report – the task sheet emphasised the text type of a scroll, with no mention being made of genre. Students had no idea that they were writing a report, but were presenting it in the format of a scroll. This means that when writing reports for History in subsequent years, students may not necessarily link to prior learning, because they recall creating a scroll in Year 8, but not a report.

The C2C-generated modelled response also could have been more effectively constructed to represent the report genre, as there was inconsistency in paragraph structure and the depth of information presented across slides. While the task was multimodal and students were required to present visuals along with written text, there was minimal direction provided on the task sheet concerning the inclusion of visuals, other than they should be 'relevant' and sources should be cited. Two of the boys questioned the purpose of presenting their information in the form of a scroll, with Connor saying that 'It's telling the teacher how much you've learnt this year and creating a scroll isn't really anything we've done', and Isaac stating that 'That belongs in Art'.

The English domain

Indigenous Perspectives was the topic for the Year 8, Term 4 English unit. This was a school-developed unit with a written assessment task of an analytical response to literature. Students explored a range of texts during the unit, including a picture book and poems, but the main

texts that they studied were songs. Even though Term 4 was a ten week term, assessment had to be completed by Week 7 or 8 to comply with school reporting deadlines. With three x 70 minute lessons of English each week, students were given opportunities for repeated practice of analytically responding to tasks, including a practice test conducted under similar conditions to the actual assessment task.

The planned intervention for English was based on the use of two exemplars. Staff members had written an exemplar for a literary response to the poem, *We are going* by Oodgeroo Noonuccal, analysing the structure and salient language features of the response. Teachers also used an exemplar written by a student in the previous year, analysing one of the class texts, *Shake a leg* by Boori Pryor, which focused on an analysis of the visual as well as the written elements of the text. The intervention lessons using both exemplars were taught by the classroom teacher.

The task description was very broad and it could have been restructured to give students a more specific focus concerning how they were to respond to the task. The task required students to write a 'literary response', but there were no further directions as to what students should be writing about, how they should approach the task and how to structure their responses:

> You are to analyse an excerpt from the picture book 'The Rabbits' by John Marsden and Shaun Tan using the attached 'Analysis of Text' sheet. You will then use these notes to write a literary response to the text. You will need to write in well-constructed paragraphs. You will need to include specific examples from the text to support your analysis.

While the task description required students to write 'well-constructed paragraphs', there is no indication that they are to write an essay. It is not outlined that students should analyse the author's and illustrator's use of evaluative language and visual imagery. Even though this detail is contained in the 'Analysis of Text' sheet, it should be clearly stated to provide a clearer direction for students. There also could have been more specific details concerning what students were to analyse; for example, how Indigenous people were represented in the text. Although it might be assumed that students, through repeated practices in class, have implicitly understood the demands of the task, without greater specificity in the task design there is potential for inconsistency in student responses and teacher interpretation of what the task requires. The task description is too broad.

A significant challenge for students in the design of the assessment task was the choice of text for students to analyse, *The rabbits*, a picture book, written by John Marsden and illustrated by Shaun Tan. The task was scaffolded for students over seven weeks in class, using modelled and joint responses and practice tests responding to multimodal texts, mostly songs. In spite of these measures, students identified the choice of text as a flaw in the task design because they had not had enough exposure to analysing picture books. Bridget discussed how in the task 'there's a lot more visuals to write about' compared to the songs they had been analysing in class. Connor said that while the practice tests helped:

> They were musical texts, like all music. I think there was one poem but the text we got was a book. We only practised like one book.

Isabelle agreed with Connor's observation concerning the incongruence between the texts used in practice responses and the text used in the exam:

> Um, I feel like we could have practised a bit more with not like songs 'cos we did a lot of songs.

Isabelle spoke further about the difficulty in analysing *The rabbits*:

> It was quite hard because there wasn't very many words so you needed to choose a word then definitely reference it back to the pictures, otherwise it would be just like a couple of words that wouldn't really make sense.

Students had one 70 minute lesson to study and write notes about the text, and then another 70 minutes to write their responses. *The rabbits* represented a challenge for students when completing their assessment and they were not adequately prepared for visual analysis, particularly visual symbolism and metaphor, during the unit. Had the song analysis been accompanied by video clips or aspects of visual grammar had been taught, the task might have been more effectively scaffolded for visual analysis.

Despite issues in the task design for English, a clear finding to emerge from the study was students' valuing of the writing process. It was evident during the study that English was the subject where the students were afforded the greatest opportunity to develop their writing through modelled and guided responses and writing independently. Connor identified the effectiveness of this process when asked what helped him prepare for his English assessment:

> Just practising in class with Ms King, giving examples and making us do a few ourselves, a few practice exams.

Bridget also valued the writing process, saying that the practices 'helped us understand how to write one [exam response] and more about evaluative language'. She highlighted the value of joint writing activities, particularly the opportunity to listen to the ideas of others and how they might respond to a text:

> 'Cos when we did some of them with the class we had like everyone's ideas and thoughts.

With repeated practices, students felt better prepared for their English assessment than they did for their History task. However, the choice of text for the assessment task did not allow students to effectively demonstrate their knowledge due to the complexity of the text and lack of exposure to that type of text.

A disciplinary literacy approach?

While the school supports the development of teachers' skills in teaching the literacies of their subject areas through professional development and Ms H's role as literacy coach, the study has revealed significant constraints – some school-imposed, such as reporting deadlines – that prevent teachers from enacting their learning about the specific literacies of their discipline in the classroom. Without a progression in the knowledge and pedagogies of the staff, improvements in students' learning will also be limited. Rather than the teachers in this study being ill-equipped to teach the literacy demands of their subject areas, as is evident in research (Fang, 2012; Moje, 2007), they need the conditions and support to implement

knowledge gained through professional development. The teachers in the study did not feel confident to explicitly teach aspects of writing in one or two rushed lessons, but they welcomed opportunities to develop their knowledge and skills over more extended periods of time, as was intended. To allow teachers opportunities to explicitly teach the literacies of their subject domains, school staff must review the curriculum and acknowledge constraints if a disciplinary literacy approach is to be achieved.

The adoption of a C2C unit in History was a significant factor impeding efforts to implement a disciplinary literacy approach within the school and expand students' knowledge of curriculum literacies. Despite schools being advised to 'adopt or adapt' the materials as appropriate, enacting the curriculum results in a severely truncated unit outline where the assessment task is adopted along with whatever content objectives are achievable within the time allowed. In History, as only two-and-a-half lessons were devoted to exploring the unit content, students completed their assessment without fully comprehending the broader context of feudal Japan and the influence of their chosen shogun in relation to the influences of other shoguns. In the enacted curriculum, when time limits compromise the completion of the full unit and its learning objectives, emphasis shifts to completion of the assessment rather than to an expansion of disciplinary ways of thinking, constructing and responding to texts.

The study revealed that even the expansion of students' content knowledge is compromised when units are dramatically reduced in learning time, with students exposed to as many of the original content objectives as can be achieved in limited time, rather than an in-depth focus on one. When the content and learning objectives of the unit have been altered without a resulting change in the assessment task, it is no wonder students struggle to comprehend assessment task requirements, let alone fulfil them.

The study has highlighted the significant challenge in producing quality assessment tasks that not only reflect student learning (Biancarosa, 2012), but are representative of the broader disciplines of knowledge that students are being acculturated into. The English assessment task, although school-designed, also exemplifies what can happen when assessment does not reflect classroom learning, particularly the impact on the learner. The English assessment task demonstrates the relationship between disciplinary knowledge and disciplinary ways of making meaning: that production of knowledge requires an understanding of the disciplinary ways of organising and representing information, as well as a deep understanding of the specific field or topic under investigation. What students lacked in responding to the English assessment task was an understanding of the field of literary response, because the text used was not an adequate or appropriate representation of what they had studied in class. This mismatch between texts and the appropriate disciplinary frames to analyse the texts leads to a broader question raised by Moje (2007); that is, whether we 'really know enough about the literate processes and practices of the disciplines' (p. 35).

Student learning outcomes are largely assessed and determined by their writing capabilities, but this is not being prioritised in schools. More than that, the teaching of writing is not being prioritised within disciplines, especially explicit consideration of the particular and distinct ways in which information is represented in specific domains, the basis of Stewart-Dore's and Morris' research (1984) 30 years ago. Education authorities and schools must consider how current curriculum designs and school structures support and constrain student curriculum knowledge and writing capabilities. We owe it to students like Bridget, Isaac,

Isabelle and Connor to do more to advance their writing capabilities and knowledge of the disciplines in which they are working.

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